

Phase II Storm water Management

Carl E. Brown

**Government Assistance Unit Chief
Missouri Environmental Assistance Office**

nrbrowc@dnr.state.mo.us

1-800-361-4827

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Phase II Storm water



Phase I

Communities over 100,000 population
Land disturbance over five acres
Categorical industries

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Non-municipals

- Land disturbance from 1-5 acres
- Exemptions for industries that eliminate storm water exposure

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Municipals (about 230 cities, counties, other entities)

- MS4 that serves 1,000 or more population in urbanized areas (over 50,000 population and 1,000 people/square mile (500/square mile?))
- MS4 that serves 10,000 or more population

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Application Components

Application must include:

- Application form
- Storm water management plan development statement
 - Program goals
 - How you will implement the six required elements (minimum control measures)
 - How you will “measure” the effectiveness of your program
 - Program elements already developed

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Application Deadline and Rule Location

Deadline: March 10, 2003

View rule 10 CSR 20-6.2 at (page 62):
[http://www.sos.state.mo.us/adrules/csr/
current/10csr/10c20-6a.pdf](http://www.sos.state.mo.us/adrules/csr/current/10csr/10c20-6a.pdf)

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Required Local Phase II Program Components

1. Public education and outreach
2. Public involvement
3. Illicit discharge elimination
4. Land disturbance runoff control
5. Post-construction stormwater management
6. Pollution prevention in municipal operations

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Storm water Program Components

1. Public education and outreach

2. Public involvement

3. Illicit discharge elimination

4. Land disturbance runoff control

5. Post-construction stormwater
management

6. Pollution prevention in municipal
operations

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Working Definitions

Best Management Practices (BMPs):
Minimizing creation of impervious and impaired surfaces, soil and site disturbance; using natural covers, features and techniques; and using straw bales, silt fences, stormwater handling structures and the like to minimize soil erosion, water quality degradation and detrimental stormwater runoff.

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Important Acronym

“MS4” - Municipal Separate Storm
Sewer System

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Storm water Facts

% Impervious Cover and its Effects

- 10% Threshold for watershed changes
- 25% Difficult to maintain streams in excellent or good quality condition
- 35% “People habitat”
- 65% “Car habitat”

Residential developments are commonly 35% impervious surfaces, with compacted soils and turf-grass on most of the rest.

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Storm water Program Components

1. Public education and outreach
- 2. Public involvement**
3. Illicit discharge elimination
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Involving Stakeholders

1. Identify them
2. Gather them by meetings, calls, Internet, etc.
3. Define your storm water goals
4. Hone your message, aim it directly at your target audience

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Involving Stakeholders

5. Create outreach and information materials and other techniques
6. Get the materials/information out there
7. Evaluate effectiveness

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Storm water Program Components

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What is Illicit Discharge?

Anything that is not storm water.

If it is not storm water and it is a problem, it shouldn't be mixed in the storm water.

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Illicit Discharge Detection and Elimination

Four steps to success: (required for Phase II permit applicants)

1. Develop, implement and enforce a program to detect and eliminate illicit discharges.
 - For Phase II this is defined at Sec. 122.26(b)(2) of the Federal Regulations

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Illicit Discharge Detection and Elimination

2. Develop storm sewer map

- Locations of outfalls
- Names and locations of receiving water bodies

3. Prohibit non-storm water discharges (ordinance)

4. Adopt enforcement procedures

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What are the Guidelines?

1. Have ordinance or other regulatory mechanism.
2. Have procedures for site plan review.
3. Have procedures for inspection & enforcement.
4. Have penalties.

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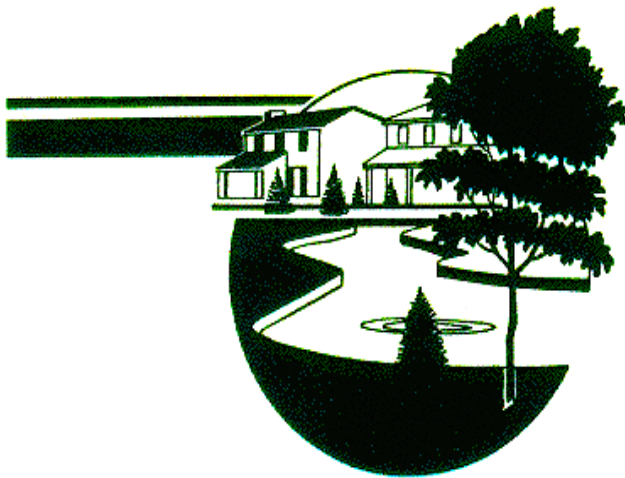
What are the Guidelines?

5. Have procedures for information (complaints) submitted by public.
6. Determine appropriate Best Management Practices (BMPs).
7. Control polluted runoff to “Maximum extent practicable”

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Storm water Management Techniques

Protecting Water Quality



**Use best
management
practices (BMPs)**

A field guide to erosion,
sediment and storm water
best management practices
for development sites in
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Post-construction Storm water Management

If you don't "plan with the end in mind" and then carry through, you will not get good storm water management results when construction is done, no matter how well you do during-construction storm water management.

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What are the Guidelines?

Strategies for structural and non-structural BMPs (long term plan).

Have ordinance or other regulatory mechanism.

Ensure long-term operation and maintenance.

Determine appropriate BMPs for your program.

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Storm water Program Components

1. Public education and outreach
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- 6. Pollution prevention in municipal operations**

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P² in Municipal Operations

Provide services to community - street sweeping, storm and sanitary sewer maintenance, etc.

Use good housekeeping practices in municipal operations - vehicle, building and grounds maintenance, chemicals handling, etc.

Use municipal facilities and operations as demonstrations to citizens and businesses of how best to manage storm water.

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What are the Guidelines?

Operation and maintenance program for
municipal operations

Employee training program

Determine appropriate BMPs

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What are the Guidelines?

Municipal Operations

- Reduce floatables and other pollutants
- Schedules and long-term inspection procedures for controls (structural and non-structural)
- Controls for reducing discharge from roads, parking lots, maintenance and storage yards
- Use good housekeeping practices

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What are the Guidelines?

Municipal Operations

- Proper disposal of waste
- Sediment
- Floatables
- Debris

(Reduce, Reuse, Recycle)

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What are the Guidelines?

Employee Training Program

- Incorporate pollution prevention into municipal operations
 - Park and open space maintenance
 - Fleet and building maintenance
 - Storm water system maintenance

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What Will Municipal Programs Cost?

Minimal program: \$3-5/person/yr

Medium program: \$30/person/yr

Exceptional program: \$50/person/yr

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Summary: What is Good Phase II Storm water Management?

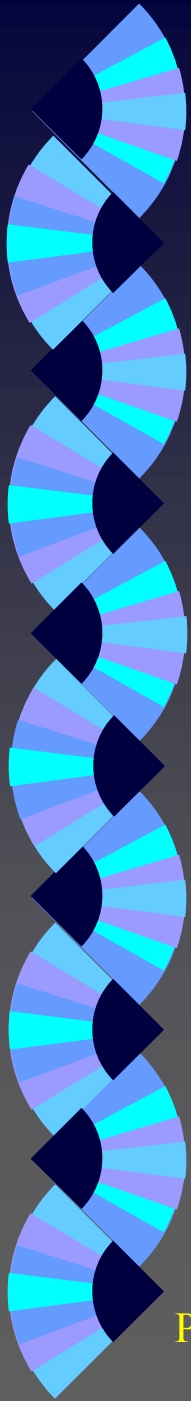
1. Keep it clean,
2. Get it back into the ground,
3. Convey it gently to stream courses,
4. Permit it properly and on time.

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Questions?



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